Amendments to the Specification:

Page 1, before the title, please insert the following:

A1

TITLE OF THE SPECIFICATION

Page 1, between lines 1 and 2, please insert the following:

BACKGROUND OF THE INVENTION

A2

Field Of The Invention

Page 1, between lines 15 and 16, please insert the following:

A3

Description Of The Background

Page 5, between lines 11 and 12, please insert the following:

A4

SUMMARY OF THE INVENTION

Page 6, between lines 1 and 2, please insert the following:

BRIEF DESCRIPTION OF THE DRAWING

A5

The figure shows an embodiment of the apparatus used in the process of the invention of producing synthesis gas in which a light hydrocarbon is oxidized in an oxidation reactor and catalyst is regenerated in a regeneration reactor.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please amend the paragraph bridging pages 3 and 4 of the text as follows:

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To overcome this latter problem, the use of metal oxides capable of being reduced by methane or another hydrocarbon, has been proposed, as primary oxygen source. In "Industrial and Engineering Chemistry," Vol. 41, Nr. 6, 1227-1237 (1949) a catalytic partial oxidation process of methane is described wherein the oxygen source consists of copper oxide which proves to be a very active oxidizing agent and which can be easily re-oxidized by means of air.

The patent U.S. 5,799,482, in particular, describes a process for the production of synthesis gas in which the partial oxidation of a light hydrocarbon is effected ~~in continuous~~ continuously, to produce synthesis gas, using as primary oxygen source, a metal oxide capable of undergoing continuous reduction/oxidation (redox) cycles. Oxides cited as being particularly suitable for undergoing redox reaction cycles are oxides of copper, chromium, cobalt, iron, manganese, their mixtures or, alternatively, binary or ternary metal oxides.

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Please amend the paragraph of page 4, lines 7-19 of the text as follows:

The embodiment ~~in continuous~~ of the continuous process described in the patent U.S. 5,799,482 comprises the use of two fluid bed reactors. The first reactor (autothermal reactor), operating at a preferred temperature of 1600-1850° F and at a pressure of 150-450 psig, contains the metal oxide, and an optional catalyst which activates the partial oxidation reaction according to schemes (II) and (III), and is fed ~~in continuous~~ continuously with the light hydrocarbon to be oxidized. The second reactor (combustor/regenerator), operating at a temperature higher than that of the first, contains the reduced metal oxide and is fed ~~in continuous~~ continuously with a fuel mixture (air/methane) to burn the carbonaceous residues present on the solid and re-oxidize the metal.

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Please amend the paragraph bridging pages 7 and 8 of the text as follows:

An object of the present invention therefore relates to a process for the production of synthesis gas, by means of the catalytic partial oxidation or autothermal reforming of light hydrocarbons, which comprises partially oxidizing the hydrocarbon with oxygen coming from the reduction of at least one metal oxide selected from hexavalent chromium oxide, supported on an inert carrier and modified with an ~~alkaline~~ alkali and/or alkaline earth~~-alkaline~~ metal, and

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metal oxides capable of autonomously sustaining the catalytic partial oxidation reaction by means of redox cycles such as silver oxide, nickel oxide and lead oxide.

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Please amend the paragraph of page 8, lines 9-17 of the text as follows:

According to the present invention, the oxides mentioned above can also be used in a mixture with other metal oxides capable of undergoing redox cycles, such as for example, oxides of copper, manganese, vanadium, cerium, titanium, iron, cobalt, praseodymium, bismuth, zinc, ~~cobalt, antimonium~~ antimony and molybdenum in such quantities as to maintain the formation reaction of synthesis gas globally exothermic. These quantities of oxides generally range from 0 to 50 % by weight, calculated with respect to the total.

A9

Please amend paragraph (i) that bridges page 8 and 9 of the text as follows:

i) partially oxidizing the hydrocarbon with oxygen coming from the reduction reaction of an oxidizing system, comprising hexavalent chromium oxide, according to the scheme:

$$4CrO_3 = 2Cr_2O_3 + 3O_2 \qquad \text{(IV)}$$

A10

wherein the chromium oxides of reaction (IV) are supported on an inert inorganic material modified with an ~~alkaline~~ alkali and/or alkaline earth[-alkaline metals] metal; and

Please amend the paragraph bridging pages 9 and 10 of the text as follows:

The chromium III oxide, promoted with an ~~alkaline~~ alkali and/or alkaline earth oxide, for example with potassium oxide, is supported on a microspheroidal alumina (average particle diameter ranging from 40 to 100 micron) modified by the addition of silica (0.1-10 %), preferably from 1 to 3 %. The specific surface of the alumina ranges from 30 to 200 m^2/g,

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whereas the quantity of chromium oxide varies from 1 to 30 % by weight and that of the potassium oxide from 1 to 10 % by weight with respect to the total. The catalyst is prepared by "incipient wetness" of the alumina with an aqueous solution containing the suitable quantity of potassium dichromate dissolved, to formulate the catalyst with the established charge of chromium III oxide. If a molar ratio Cr/K different from 1 is to be obtained, the impregnation can be effected with a precursor for the chromium different from dichromate, and this also applies to the potassium. After the impregnation, the impregnate is dried within a temperature range of 100 to 120° C for 4 hours, and the dried product is finally calcined within a temperature range of 800 to 900° C for 4 hours.

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Please amend the paragraph of page 14, lines 10-15 of the text as follows:

The light hydrocarbon ~~(1)~~, for example methane, is fed to the base of the reactor (2) through line (1) by means of a suitable distributor, not shown in the figure and, as it flows upward, it maintains the solid in fluid state, undergoing partial oxidation. The synthesis gas thus obtained is discharged at the head by means of line (3).

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Please amend the paragraph bridging pages 14 and 15 of the text as follows:

The air for the oxidation ~~(8)~~ entering reactor (7) through line (8), optionally enriched with oxygen, is fed to the base of the reactor (7) by means of a suitable distributor, not illustrated in the figure, and, as it flows upward, it maintains the solid in fluid state while oxidizing the chromium III to chromium VI. The exhausted air is discharged at the head by means of line (9).

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Please amend the paragraph of page 15, lines 3-7 of the text as follows:

The chromium oxide CrO_3, again supported on alumina, is collected on the bottom of the reactor (7) and is pneumatically sent by means of transfer line (10) and with the introduction of

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A14

carrier gas, for example methane, through lines (11) and (12) to the upper part of the oxidation reactor (2).